FLEXURE ASSEMBLY FOR A SCANNER

Abstract of the Disclosure

A flexure carriage assembly (24) has a carriage (25) formed of a substantially rigid material. The carriage has four elongate columns (32A, 32B, 32C, 32D) arranged spaced apart and parallel to one another. Each of the elongate columns has first and second ends. The flexure carriage (25) has four first cross members disposed between adjacent pairs of elongate columns and arranged to interconnect the first ends. The flexure carriage also includes four second cross members (38A-D) arranged between adjacent pairs of elongate columns and arranged to interconnect the bottom ends. The elongate columns and first and second cross members define a three-dimensional rectangular structure. The flexure carriage also has disposed centrally between the four elongate columns a translating section (29) spaced equidistant between the first and second ends of the columns. A plurality of flexures (50) are disposed between the translating element and elongate columns and between the elongate columns and first and second cross members in order to permit precise movement of the translating section (20) in a plane according to applied forces against edges of the translating section. A pair of piezoelectric assemblies (26) are connected to the translating section. One applies force to the translating section in a first linear path and the other applies force to the translating section in a second linear path perpendicular path.